D—WESTERN RANGE AND IRRIGATED REGION

1,461,300 km² (564,210 mi²)

This is a semidesert to desert region of plateaus, plains, basins, and many isolated mountain ranges. The average annual precipitation is 250 mm or less in most of the plains and basins but more than 1,275 mm in some of the higher mountains. In the southeast, most of the precipitation falls as rain during the warm season, but elsewhere most of the precipitation falls during the cool season. In most of this region, the average annual temperature is 7 to 13°C, but it ranges from 2°C at the higher elevations in the north to more than 21°C in some of the lowlands in the south. The freeze-free period ranges from less than 90 days in the north and in some of the higher mountains to more than 240 days in the south.

Orthids, Fluvents, Orthents, and Xererts are extensive on the plains and plateaus and in valleys throughout the region. Xerolls, Ochrepts, and Boralfs are on mountain slopes. Argids on plains and in basins and Orthents on mountain slopes are also important.

Much of the land in this region is used for range, but irrigation is practiced in places where water is available and the soils are suited. Feed crops for livestock are grown on much of the irrigated land. Peas, beans, and sugar beets are grown in many places. Cotton and citrus fruits are important crops in southwestern Arizona.

32—Northern Intermountain Desertic Basins

Montana and Wyoming

21,210 km² (8,190 mi²)

Land use: More than one-half of this area is federally owned. The remainder is in farms and ranches. Most of the land is used for grazing. The range consists of desert shrubs and short grasses. About 5 percent of the area is irrigated. Most of the acreage is planted to alfalfa and other feed crops, but dry beans, malt barleys, sugar beets, and corn are important cash crops.

Elevation and topography: Elevation ranges from 1,100 to 1,800 m. Piedmont plains and pediments slope from the mountains to the stream terraces of the Wind-Big Horn River system. In some places the plains are eroded to the clay shale bedrock, and there are areas of badland.

Climate: *Average annual precipitation*—125 to 225 mm. Maximum precipitation is in spring and in fall. *Average annual temperature*—About 7°C. *Average freeze-free period*—120 to 140 days.

Water: The low and erratic precipitation provides only a small amount of water. The Wind-Big Horn River and its tributaries bring irrigation water into the area from the bordering mountains. Deep artesian wells provide water for irrigation on the eastern side of the Big Horn Basin.

Soils: The dominant soils are Argids. They are moderately deep to very deep and moderately fine textured. These soils have a mesic temperature regime, an aridic moisture regime, mixed mineralogy, and an argillic horizon. Haplargids (Griffy and Saddle series) are on piedmont plains and pediments over clay shale and sandstone. Torriorthents (Persayo series) and areas of rock outcrop are on dissected slopes. Torrifluvents (Youngston and Havre series) and Torriorthents (Apron series) are on recent alluvial fans and flood plains. Natrargids (Meeteetse series) are on alkaline clay shale.

Potential natural vegetation: This area supports shrub-grass vegetation. Big sagebrush, gardner saltbush, rhizomatous wheatgrasses, Indian ricegrass, and needleandthread are dominant species. Black sage, gardner saltbush, and bluebunch wheatgrass are common on shallow soils on the uplands.

33—Semiarid Rocky Mountains

Wyoming

11,000 km² (4,250 mi²)

Land use: One-fourth or more of this area is federally owned. The remainder is in ranches. Most of the land is used for grazing. The range consists of desert shrubs and short grasses. Open woodland is at high elevations in some mountains. Small irrigated tracts in isolated valleys are used mainly for hay.

Elevation and topography: Elevation ranges from 1,800 to 3,100 m. Mountain ranges with steep slopes rise sharply from desert basins.

Climate: *Average annual precipitation*—250 to 400 mm. Maximum precipitation is in spring and early in summer. *Average annual temperature*—7°C. *Average freeze-free period*—Less than 120 days, decreasing with elevation.

Water: Water is scarce. The low precipitation, small and intermittent streamflow, and scarcity of ground water seriously limit water developments.

Soils: The dominant soils are Orthents. They are shallow to very deep and moderately coarse to moderately fine textured and have a frigid temperature regime, an aridic moisture regime, and mixed mineralogy. Torriorthents (Crownest series), Haplargids (Cotha series), and areas of rock outcrop are on upland slopes. Torriorthents (Delphill and Patent series) are on pediments and alluvial fans at the base of the slopes.

Potential natural vegetation: This area supports a grass-shrub vegetation. Columbia needlegrass, brome, rhizomatous wheatgrasses, and big sagebrush are the dominant species. Idaho fescue, Columbia needlegrass, black sagebrush, and scattered Rocky Mountain juniper are dominant on shallow soils. Lodgepole pine, ponderosa pine, and limber pine grow on upper mountain slopes. Clumps of aspen are in some moist pockets.